September 29, 1995

Mr. Juan R. Velasquez
United Nuclear Corporation
1700 Louisiana
Albuquerque, NM 87110

RE: Prior Reclamation Status, Anne Lee, Sandstone and John Bill Mines, McKinley County, New Mexico

Dear Mr. Velasquez:

The Mining and Minerals Division (MMD) has completed the inspection of reclamation measures at United Nuclear's Anne Lee, Sandstone and John Bill Mines.

Please find enclosed two copies of inspection reports. One report addresses the Anne Lee Mine and the other addresses the John Bill and Sandstone Mines.

Based on findings described in the enclosed inspection reports, reclamation measures at United Nuclear's Anne Lee, Sandstone and John Bill Mines do not satisfy the requirements of the New Mexico Mining Act (NMMA) and the substantive requirements for reclamation pursuant to the NMMA Rules. As United Nuclear has completed most reclamation measures, United Nuclear may apply for a variance from the provisions of the NMMA Rules pursuant to NMMA Rule 10. Otherwise, United Nuclear must submit a permit application and closeout plan for an existing mining operation within six months of receipt of this letter pursuant to NMMA Rule 5.10.B. The enclosed prior reclamation inspection reports detail the findings of the inspections but do not include the photos/slides contained in the MMD file copy.

If you have any questions please contact Holland Shepherd of the Mining Act Bureau, (505) 827-5971.

Sincerely,

Kathleen A. Garland, Director
Mining and Minerals Division

cc: Maxine Goad, New Mexico Environment Dept.

Enclosures

9116653

PRIOR RECLAMATION INSPECTION REPORT
AND
RECOMMENDATION FOR RELEASE OR PERMIT REQUIREMENT

United Nuclear Corporation - Anne Lee Mine

Submitted in Partial Fulfillment of New Mexico Mining Act
Section 69-36-7 U, Prior Reclamation

New Mexico Energy, Minerals and Natural Resources Department
Mining and Minerals Division
Mining Act Reclamation Bureau

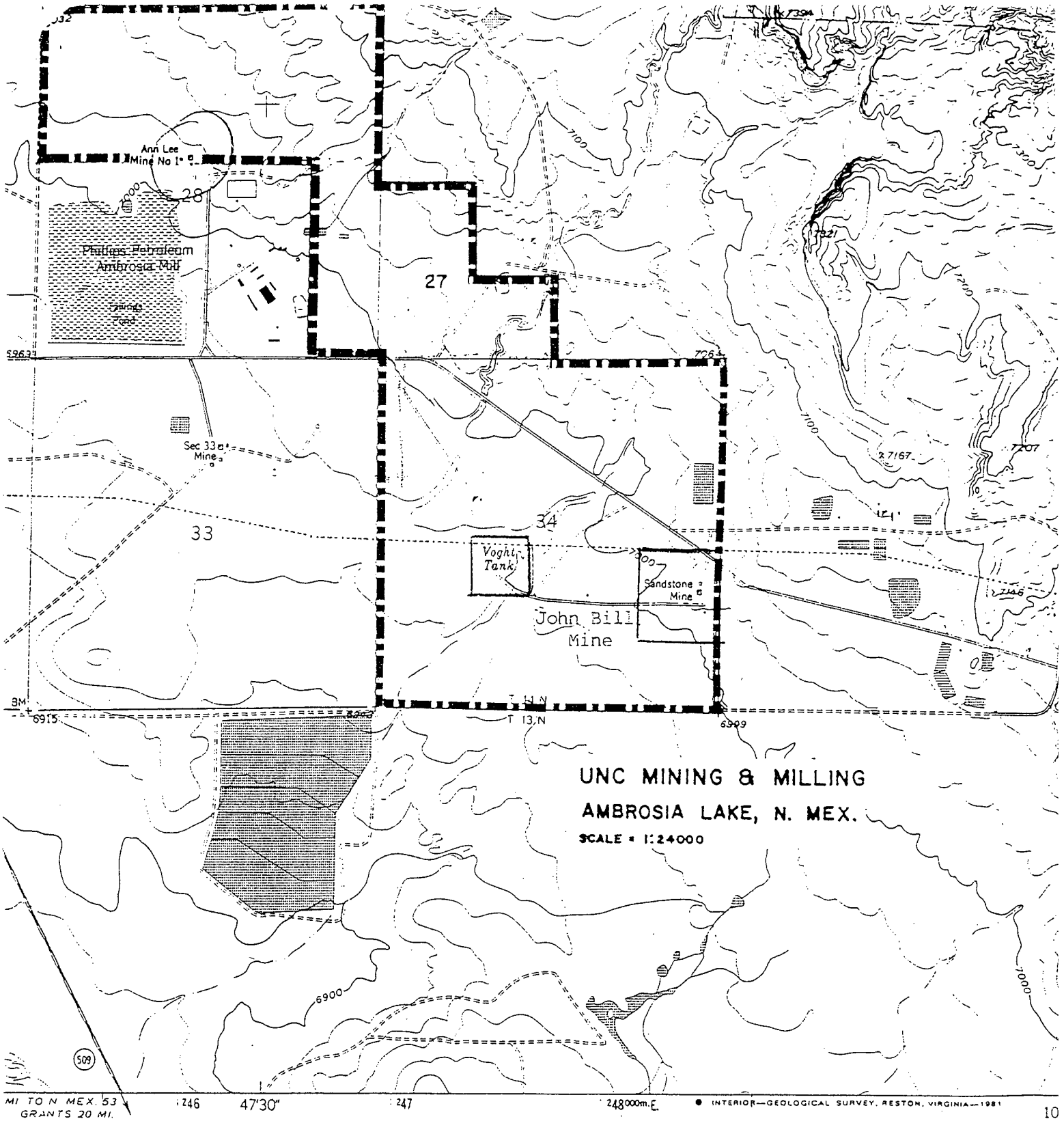
September 18, 1995

Introduction

The purpose of this study was to determine if reclamation measures at United Nuclear Corporation's Anne Lee Mine satisfy the requirements of the New Mexico Mining Act and the substantive requirements for reclamation pursuant to the New Mexico Mining Act Rules.

The Anne Lee Mine prior reclamation site is located approximately 22 miles northwest of the City of Grants, New Mexico. The total area, for which release is being requested by United Nuclear, consists of the outlined portions of Sections 27 and 28 of T14N, R9W as delineated in Figure 1 (Section 34 is also being requested for release but as the Sandstone and John Bill Mines). Of Sections 27 and 28, however, only a 75 foot by 60 foot (one tenth acre) area where the head frame of the Anne Lee Mine existed was inspected for prior reclamation. The rest of the subject area was cleaned of radioactive material and reclaimed by the U.S. Department of Energy (DOE) as part of the cleanup, stabilization and reclamation program. United Nuclear, however, has asked for release of the entire mine site from further requirements of the Act.

The Anne Lee Mine lies within a broad, regional valley eroded in the Mancos Shale. Figure 2 is a stratigraphic column depicting the sequence of the underlying formations. Commercial grade uranium was first discovered in the upper Westwater Canyon Sandstone Member by the Strategic Minerals Section of Phillips Petroleum Company in early 1956. Subsequently, nearly 300 exploration holes were drilled to an average depth of approximately 750 feet. The existence of an ore body of about one million tons was established and sinking of the Anne Lee Mine Shaft commenced in 1957. The shaft had two mining levels, a main level at a depth of 660 feet and a sub-level at 720 feet. Underground workings span the section in an east-west direction, and at their widest point, expose part of the Westwater Canyon Sandstone Member for nearly 1000 feet in a north-south direction. The Anne Lee ore deposit consisted of one large pod (the main ore body) and 20 to 30 smaller, parallel, or satellite pods. The main ore body extended from the west section line to a point within 500 feet of the west section line. At the time the main Anne Lee ore body was first opened by mine workings, the level of water saturation coincided with the top of the ore at a point a few hundred feet northwest of the shaft. West of that point, except for a few small bodies of perched water, the ore was dry (Kelly, 1963). There are no surface water features in the area. The area drains into an ephemeral tributary of the Arroyo del Puerto. Reclamation with respect to protection of ground water is addressed in a separate report.



1 MILE
6000 7000 FEET
1 KILOMETER

ROAD CLASSIFICATION
Medium-duty ——— Light-duty ———
Unimproved dirt - - - - - -
State Route

NEW MEXICO
QUADRANGLE LOCATION

Figure 1
AMBROSIA LAKE, N. MEX
N3522.5—W10745/7.5

TANDARDS
OR RESTON, VIRGINIA 22092

Revisions shown in purple compiled from aerial photographs

Inspection Procedures

Prior reclamation at the Anne Lee Mine was inspected July 13, 1995. Mr. Ed Morales, Operations Superintendent and Radiation Safety Officer represented United Nuclear Corporation and Mr. Joe DeAguero, Reclamation Specialist, Mr. Robert Young, Environmental Engineer and Ms. Tacy Harling, Student represented the New Mexico Mining and Minerals Division. The inspection of the Anne Lee Mine consisted of inspection of the general condition of the reclaimed mine site, measurement of soil depth, discussion with the operator of mining and reclamation operations performed at site and photo documentation of vegetation.

Results and Discussion

The Anne Lee Mine is characterized by a quarter acre mound where the shaft was located.

The mine shaft was backfilled with nontoxic mine waste material and capped with a concrete slab approximately 20 foot square and 4 feet thick. The concrete cap was not covered with soil.

A barbed wire fence surrounded the site. All structures, trash or junk had been removed from the site. There were no piles or accumulations of toxic or waste material on the site. There were no apparent hazards that could affect public safety.

There were no erosion features. All out slopes were stable.

An average of three feet of topsoil had been removed from the area around the site. Redistributed topsoil depths onsite were approximately three feet.

The area had been seeded last fall but vegetation was very sparse. Essentially no perennial species, and only a few annuals such as Kochia and Russian Thistle, were growing on the site and, consequently, cover was not measured by transects. Photos documenting vegetation and general condition of the site are in Appendix A

Conclusions and Recommendations

The Mining and Minerals Division commends United Nuclear Corporation for their efforts to comply with the New Mexico Mining Act. However, vegetation on the Anne Lee prior reclamation inspection site is not adequate to stabilize the site from erosion. Further, the plant species that are growing are not self-sustaining. Additional reclamation measures are required at United Nuclear's Anne Lee Mine to satisfy the requirements of the New Mexico Mining Act including:

1. The concrete slab covering the shaft must be covered by a minimum of two feet of topsoil or suitable material.

2. The area must be reseeded with a mixture of native species appropriate for the area. MMD staff will be happy to advise United Nuclear regarding an appropriate seed mixture.

It is recommended, therefore, that the Anne Lee Mine prior reclamation site, operated by the United Nuclear Corporation, not be released from further requirements of the New Mexico Mining Act.

References

Kelly, Vincent C. 1963, Geology and Technology of the Grants Uranium Region, Memoir 15, New Mexico Bureau of Mines and Minerals Resources, Socorro, New Mexico.

Morales, E. M. (Ed) 1995, Operations Superintendent and Radiation Safety Officer, United Nuclear Corporation, Personnel Communication.

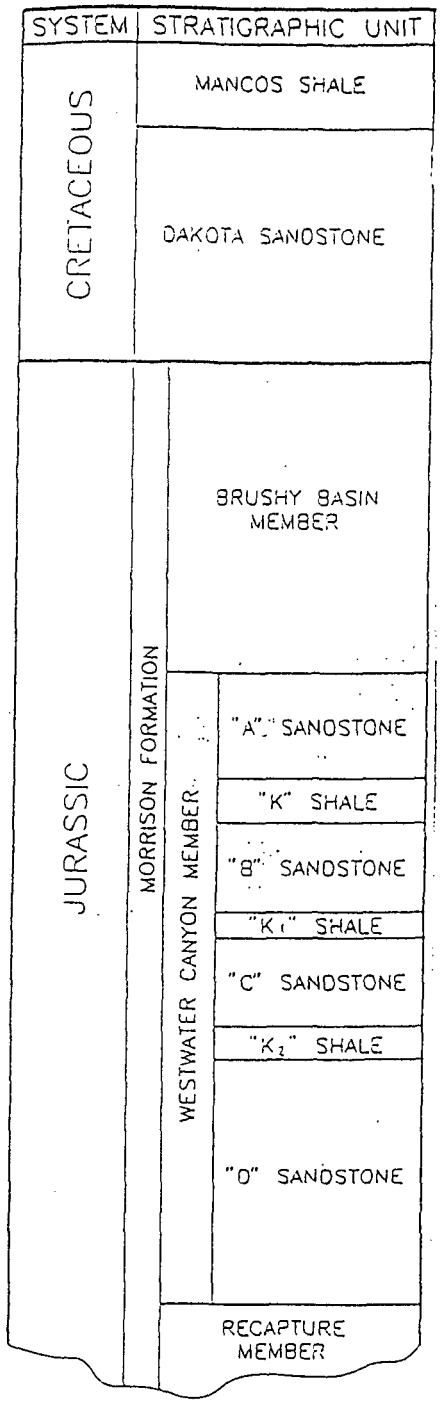


Figure 2. Stratigraphic column of underlying formations (from Kelly, 1963)

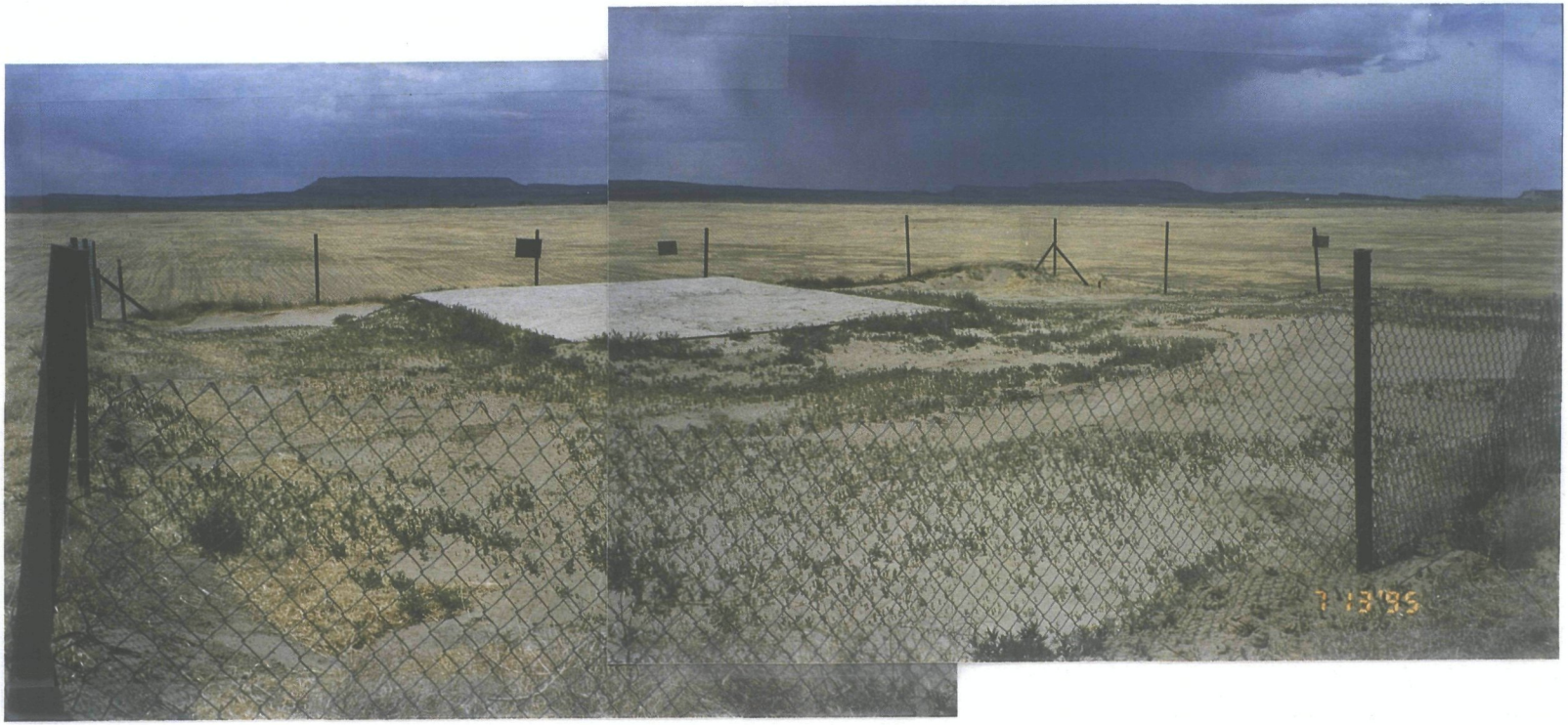
Appendix A

Photo Documentation

Photo 2. Site Mound from south, 20 yards from site

Photo 1. Site Mound from east, 20 yards from site

Figure 5&6. Side slope of site from east



Photos 3&4. Top of site with concrete cap from southeast